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APPLICATION FOR LETTERS PATENT  
UNITED STATES OF AMERICA

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Be it known that we, Patrick J. DeBusk, a citizen of the United States residing at 206 Springs Crossing, Canton, Georgia, 30114 and Colin P. Ford, a citizen of the United States residing at 510 Old Field Cove, Woodstock, Georgia, 30189 have  
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RECLOSABLE CARTON HAVING A ZIPPER OPENING TEAR STRIP

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of which the following is the specification.

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TITLE OF THE INVENTION

RECLOSABLE CARTON HAVING A ZIPPER OPENING TEAR STRIP

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BACKGROUND OF THE INVENTION

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1. Field of the Invention

The present invention relates generally to a reclosable carton for carrying items such as food products, in particular, frozen foods, where the carton can be opened and reclosed to a secure mode several times. The carton is reclosed by a combination of a tuck flap which has a pair of shoulders which interlock with locking shoulders formed at the intersection of a fold line and a locking slit between the top tear flap and a side panel.

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2. Background

Some food products are packaged in a carton that may need to be opened to show the product to the consumer and then reclosed and placed back on the shelf or in the freezer. These cartons for food products need to be glued shut when loaded so that evidence of their having been opened (e.g. tearing) would be readily apparent. This type of carton is used in delivery trucks for showing the product to the consumer and then reclosing the carton if the consumer does not purchase the product. The carton is frequently used for frozen products, like ice cream, that is sold from delivery trucks to individual consumers who may want to see the primary package before purchase. If the carton is opened in the truck and the product not purchased, the carton must be reclosed and placed back on a shelf or in a freezer in the truck. The reclosed carton needs to be presentable as a secure package to the consumer in order to enhance the chances of the product being sold. Many of the present cartons are not easily reclosable or are not presentable as secure packages when reclosed. It would be desirable to have a carton that can be reclosed using flaps on one end of the carton for reclosing and securing the carton in the closed position for placing it back on the shelf or in the freezer. This carton also allows the consumer to consume only part of

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the product in the carton, and then re-seal the carton to help prevent spoilage and/or spillage.

There is a need for a reclosable carton that is easily opened and reclosed that is presentable as a secure package to the consumer when reclosed.

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#### SUMMARY OF THE INVENTION

Briefly described, the present invention provides a reclosable end-loading carton for carrying articles or containers, such as frozen food containers. The carton has a pair of end panels and foldably attached adjoining side panels. The top of the carton is closed by a pair of top end flaps which are foldably attached to an end panel. The top has a top reclosable flap and top tear flap, each of which is foldably attached to a side panel. When this carton is filled with a product, the top tear flap overlaps the top reclosable flap and is secured to it by glue.

The bottom of the carton is closed in a conventional way. Preferably the bottom of the carton has a pair of bottom flaps, each of which is foldably attached to a side panel and a pair of bottom end flaps. These flaps on the bottom of the carton are preferably secured in the closed position by glue.

This carton is formed from the blank of foldable material, such as paperboard. The blank for this carton is formed into a carton sleeve by gluing two end flaps together to form an end panel. Articles or containers with product, such as food, can be inserted into the carton sleeve and the top and bottom of the carton closed and secured together by glue.

This carton has several features which make the carton reclosable and presentable after it has been opened. For easy opening of this carton, a zipper strip is formed by a pair of tear lines that extend across the top tear flap from one side to the other. This zipper strip is generally parallel to the fold line between the top tear flap and adjoining side panel. The top of this carton can be opened after it has been closed by tearing the zipper strip open and removing the contents of the carton. There is a top seal strip between the zipper strip and the end of the top tear flap. This top seal strip is glued to the reclosable flap. This means that when the zipper strip is opened, only this top seal strip remains attached to the reclosable flap and the remainder of the

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top tear flap can be opened along with the other flaps in the top of the carton and the contents removed.

This carton can be reclosed after it has been opened by using a tuck flap attached to the end of the top reclosable flap by a fold line, with the tuck flap being inserted into a locking slit between the top tear flap and adjoining side panel. In order to secure the top reclosable flap in the closed position, a pair of locking shoulders may be provided between the tuck flap and top reclosable flap. This carton is closed by inserting the tuck flap into the locking slit between the top tear flap and adjoining side panel. This locking slit replaces the center portion of the fold line between the side panel and the top tear flap. This locking slit preferably has a pair of shoulders securing the tuck flap in the closed position. These shoulders are formed by offsetting the center section of the locking slit towards the remote end of the top tear flap thereby forming a shoulder with each side section of the locking slit. While the tuck flap can be inserted into the locking slit where neither the locking slit nor the tuck flap has any locking shoulders, the security of the reclosure of the top reclosable flap is greatly improved by the provision of a pair of locking shoulders on the tuck flap and locking slit so that these shoulders interlock each other.

An opening tab can be provided on one end of the zipper strip to facilitate opening the strip.

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#### **BRIEF DESCRIPTION OF THE DRAWINGS**

Many aspects of the invention can be better understood with reference to the following drawings. The components in the drawings are not necessarily to scale, emphasis instead being placed upon clearly illustrating the principles of the present invention. Moreover, in the drawings, like reference numerals designate corresponding parts throughout the several views.

FIG. 1 is a plan view of a blank of which a reclosable carton of this invention is constructed.

FIG. 2 is a perspective view of a carton formed from the blank of FIG. 1 and loaded with a product and closed. The zipper strip has been torn from the top tear flap of this carton to commence the opening of the carton.

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FIG. 3 is a perspective top view of the carton of FIG. 2 in which the top has been completely opened and the product removed.

FIG. 4 is a perspective top view of the carton of FIG. 2 showing the commencement of reclosing by the insertion of the tuck flap into the locking slit.

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#### **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT**

The present invention is primarily for use with articles or containers that are packaged in a carton that has the capability of being reclosed in a secure mode after it has been opened. This reclosable carton is especially useful for frozen foods where a primary container of the frozen food is frequently removed from the carton for showing to a consumer. The frozen food can be placed back in the carton which is reclosed and placed back on the freezer shelf. This cycle of opening and reclosing the carton may take place several times before the product is finally sold. In addition, the carton allows easy and secure reclosing in case only part of the contents of the carton are consumed.

As illustrated in FIG. 1, the blank 10 for forming the carton of this invention is formed from a foldable sheet of material, such as paperboard. The blank 10 for forming the carton has an end flap 12 that is connected to side panel 14 by fold score 16 which in turn is connected to end panel 18 by fold score 20. End panel 18 is connected to side panel 22 by fold score 24 which in turn is connected to end flap 26 by fold score 28. Side panel 14 is connected to bottom flap 30 by fold score 32 and to top reclosable flap 40 by fold score 41. End panel 18 is connected to bottom end flap 34 by fold score 32 and to top end flap 48 by fold score 41. Side panel 22 is connected to bottom flap 36 by fold score 32 and to top tear flap 50 by fold score 41. End flap 26 is connected to bottom end flap 38 by fold score 32 and to top end flap 62 by fold score 41.

Top reclosable flap 40 is connected to tuck flap 42 by fold score 44. Cut line 46 extends from each end 49A-B of fold score 44 to each side 47A-B of tuck flap 42. Cut line 46 basically replaces fold score 44 on each side 47A-B of tuck flap 42. Locking shoulders 49A-B is formed at the end of fold score 44 where it meets cut line 46.

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Top tear flap 50 has a zipper strip 52 that extends all the way across top tear flap 50 from one side 53A to the other side 53B. This zipper strip 52 is preferably formed by two zipper tear lines 54 that are parallel to each other and to fold score 41. While the zipper strip 52 could be formed with ordinary tear lines, the zipper tear lines 54 shown in FIG.1 facilitate the tearing of zipper strip 52 in a manner similar to the way the zipper on clothing functions. In order to start the tearing of the zipper strip 52 an opening tab 56 may be provided to commence the tearing.

A locking slit 58 is provided as a part of the locking mechanism for locking the top reclosable flap 40 in the reclosed position. The locking slit 58 is composed of a center portion 58A and end portions 58B-C and is located between side panel 22 and top tear flap 50. The center portion 58A of the locking slit 58 is located slightly closer to the remote end 59 of top tear flap 50 than the end portions 58B-C of the locking slit 58. This results in forming locking shoulders 60A-B. Locking slit 58 basically replaces fold line 41 adjacent the center of top tear flap 50. Top tear flap 50 has top seal strip 51.

This blank 10 is formed into a carton sleeve by gluing end flap 12 to end flap 26 to form an end panel similar to end panel 18. A product, such as an ice cream container, can be loaded into the carton sleeve and the bottom of the carton closed by folding in bottom end flaps 34 and 38. Bottom flaps 30 and 36 can be folded in and glued to each other, thus sealing the bottom of the carton. The top of the carton can be closed in a similar manner by folding top end flaps 48 and 62 and then folding top reclosable flap 40 and folding tuck flap 42 inside of side panel 22. Glue is then applied to top seal strip 51 and closed thus, securing it to top reclosable flap 40 with glue. A formed and sealed carton is shown in FIG. 2, but with the zipper strip 52 removed as a first step in opening the carton.

This carton can be opened by pulling opening tab 56 and tearing zipper strip 52 and removing it from the carton as shown in FIG. 2. The reclosable locking flap 50A (i.e. without zipper strip 52 and top seal strip 51) of the top tear flap 50 can be folded open along with top reclosable flap 40 and top end flaps 48 and 62. It will be noticed that top seal strip 51 remains attached to top reclosable flap 40. The contents of the carton can then be removed. A carton in which the carton has been opened and the contents removed is illustrated in FIG. 3.

After the contents of the carton have been replaced in the carton, it can be easily reclosed by first closing the top end flaps 48 and 62 and then closing reclosable locking flap 50A. The top reclosable flap 40 can be closed and tuck flap 42 inserted into locking slits 58A-C, thus reclosing the carton. When the tuck flap 42 is closed locking shoulders 49A-B on fold score 44 are locked with locking shoulders 60A-B at each end of the locking slit 58. Locking slit 58A-C could be constructed in a straight line and cut line 46 not included which would still allow the carton to be reclosed. It is preferred to have locking shoulders 49A-B to interlock with locking shoulder 60A-B to secure the carton in the reclosed position. The starting of the reclosing of tuck flap 42 by its insertion into locking slit 58A-C is illustrated in FIG. 4. It will be noticed that top seal strip 51 remains glued to top reclosable flap 40. After the carton of this invention has been reclosed, it can be opened many times by disengaging the locking shoulders and opening the tuck flap 42 and top reclosable flap 40.

If desired, both the top and bottom of this carton can be made reclosable, but it would require the use of more paperboard to make a tuck flap for the bottom like tuck flap 42.

The carton of this invention is especially useful on delivery trucks which deliver products to individual consumers who may want to see the primary package before purchasing the product. This is frequently the case with ice cream and other frozen products. The carton can be opened in the truck and inspected by the consumer. If the product is not purchased, the carton can be reclosed and placed back on the shelf or in a freezer in the truck. The reclosed carton will be presentable as a secure package and not one that has been broken into and not reclosed. Furthermore, the carton may be securely resealed in the event only part of the contents are used and the remainder replaced for use in the future.

Other systems, methods, features, and advantages of the present invention will be or become apparent to one with skill in the art upon examination of the following drawings and detailed description. It is intended that all such additional systems, methods, features, and advantages be included within this description, be within the scope of the present invention, and be protected by the accompanying claims.